Gulf of Mexico Alliance
Nutrient Sources, Fate, & Transport Study Design Workshop
February 19-21, 2008

NOAA Fisheries Lab, Galveston, Texas
4700 Avenue U
Galveston, TX 77551

Excess nutrients in coastal waters are a common problem around the Gulf of Mexico. The States participating in the Gulf of Mexico Alliance (GOMA) are each charged by the U.S. Environmental Protection Agency with establishing nutrient criteria for coastal waters. The GOMA intends to design a common monitoring framework to provide the information needed to understand the transport, fate, and effects of nutrients. This approach will assess nutrients and associated water quality factors as they are carried from coastal drainages through estuaries and nearshore waters into the offshore of the Gulf of Mexico.

A goal of the monitoring design framework will be to optimize the monitoring necessary to establish nutrient criteria and determine nutrient effects. This design will need to provide a comprehensive understanding of water quality, circulation, and biological communities. This information will also inform where to best establish long-term monitoring, what that monitoring should be, and how it should be carried out. The framework will be developed so it can be deployed at locations around the Gulf of Mexico, in a range of conditions and types of coastal waters. Testing under different conditions will provide better ecological understanding and identification of core monitoring, and what local modifications of the core design may be needed.

This workshop will bring together the necessary expertise from state and federal agencies and universities to develop a regionally coordinated monitoring design framework to support state nutrient criteria development for coastal and estuarine waters.

WORKSHOP GOAL: Develop a master conceptual design for a series of pilot monitoring projects to identify ecological nutrient drivers, sources and other pressures, key effects levels, and tipping points for management action for a range of different coastal ecosystems resulting in a classification system, indicators, and models for nutrient criteria. The design will encompass systems including coastal watersheds, estuaries and their tributaries, and nearshore coastal waters.

This conceptual design will be applied where resources allow or become available to support new monitoring, so that data points can be related in space and time. Pilots will be developed to build on existing data and monitoring stations/programs and to cover the range of Gulf coastal ecosystems.

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February 19th

1:30 pm- 2:00 pm	**Introductions and Overview** *Sidne Tiemann, TX Commission on Environmental Quality* *Natalie Guedon Segrest, MS Dept. of Environmental Quality*
2:00 pm- 3:00 pm	**Texas Estuarine Nutrient Monitoring** *Dr. George Guillen, University of Houston at Clear Lake* **Relationship Between Freshwater Inflows and Nutrient Concentrations in Texas Estuaries** *Dr. Paul Montagna, Texas A&M University* *(Sandra Arismendez, co-author)* **Atmospheric Deposition of Nutrient Nitrogen** *Dr. Terry L. Wade, Texas A&M University*
3:00 pm- 4:00 pm	**Using Stable Isotopes to Trace Nutrient Fate and Transport** *Charles Kovach, Florida Dept. of Environmental Protection* *Dr. Ernst Peebles, USF College of Marine Science* *Dr. David Hollander, USF College of Marine Science*
4:00 pm- 5:00 pm	**NASA Remote Sensing Applications** *Bruce Spiering, NASA* *Richard Brown, SSAI*

February 20th

8:00 am - 8:45 am	**Welcome and Discussion of Workshop Goals** *Steve Wolfe, FL Department of Environmental Protection*
8:45 am – 9:45 am	**Study Questions and Ecological Endpoints** *Charles Kovach, FL Department of Environmental Protection*
9:45 am – 10:00 am	**BREAK**
10:00 am - 11:00 am	**What to Monitor** *Charles Kovach, FL Department of Environmental Protection*

11:00 am - 11:30 am	**Reference Conditions** *Dave Whitall, NOAA*
11:30 am - noon	**Human Uses** *Steve Wolfe, FL Department of Environmental Protection*
Noon - 1:30 pm	**Lunch-** On own
1:30 pm- 2:00 pm	**Human Uses (continued)** *Steve Wolfe, FL Department of Environmental Protection*
2:00 pm – 3:00 pm	**Watershed Conditions** *Charles Kovach, FL Department of Environmental Protection*
3:00 pm- 3:45 pm	**Nutrient Loads and Models** *Lynn Sisk, AL Dept. of Environmental Management*
4:00 pm- 5:00 pm	**Tour of Galveston Lab**

February 21st

8:00 am - 8:30 am	**Nutrient Loads and Models (con't)** *Lynn Sisk, AL Dept. of Environmental Management*
8:30 am – 10:00 am	**Sampling Approach** *Dave Whitall, NOAA*
10:00 am – 10:15 am	**BREAK**
10:15 am – 11:15 am	**Quality Assurance Plan and Metadata Requirements** *Natalie Guedon Segrest, MS Dept. of Environmental Quality*
11:15 am - noon	**Review Monitoring Design Framework and Next Steps** *Laurie Rounds, NOAA* *Lael Butler, EPA Gulf of Mexico Program Office*

Workshop information is available at:
http://www2.nos.noaa.gov/gomex/nutrients/welcome.html